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ABSTRACT

A research project is discussed involving the collection of production data from writing samples of 375 adult learners of English divided equally among five language backgrounds: Arabic, Chinese, Japanese, Persian, and Spanish. Information is presented about three constructions: (1) subject relative clause, (2) infinitival complement on verb, and (3) passive construction. For each structure, total production, total error production, and error types are analyzed. Three error type characteristics and two learning patterns are described. It is argued that neither the error type characteristics nor the learning patterns would have emerged if total production, total error production or error types had been considered in isolation. (Author/AMH)

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REFLECTIONS ON ERROR PRODUCTION

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ABSTRACT

The production of three syntactic constructions by adult learners of English is considered. For each structure, total production, total error production, and error types are analyzed. Three error type characteristics are described and two learning patterns are presented. It is argued that neither the error type characteristics nor the learning patterns would have emerged if total production, total error production or error types has been considered in isolation.

Consider the following situation: two groups of ESL learners, with different language backgrounds but at the same level of proficiency, were given the same task under identical circumstances. The results were compared with regard to the number of errors produced in the use of a particular syntactic construction. It was found that Group X produced significantly fewer errors than did Group Y. Can we then draw any interesting conclusions? We might be tempted, at first glance, to conclude that Group X did 'better' at this task than did Group Y; but no matter how common-sensical this conclusion may seem, it may well be a false one.

The facts to be presented in this paper are meant to indicate why that common-sense conclusion may be far from the truth. The problem in this hypothetical case lies in drawing conclusions about a total system on the basis of facts considered in isolation and not in relationship to each other. The focus of this paper, then, will be on interrelationships: those among total production of a given structure, total error production within that structure, and the error types that users of that structure produce. A picture of two language learning patterns will be drawn, a picture that differs radically from the 'common-sense' characterization given above.

The facts described below are derived from a project[1] involving the collection of production data from writing samples[2] of 375 adult learners of English divided equally

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among five different language backgrounds: Arabic, Chinese, Japanese, Persian, Spanish, My co-worker, Beverly Hart, and I recorded, from these writing samples, every recognizable attempt at production of each syntactic construction included for study in the project, including both well-formed and malformed instances of the construction.

The facts about three of those constructions have been chosen for presentation in this paper. The constructions, with examples, are as follows:

Subject Relative Clause

The officer who arrived first waited.

The officer who arrived second apologized.

Infinitival Complement on Verb

The general wanted to attack.

The general wanted the admiral to attack.

Passive

The city was destroyed.

The city was destroyed by the admiral and the general.

Since for each construction every attempt to produce it was recorded, it was possible to determine whether or not proficiency level[2] and language background were significant factors in total production. Accordingly, for each construction a two-way analysis of variance was performed, the results of which are shown on Table I. The proficiency level factor, labeled 'grade' in the table, was significant ($p < .05$) in all three constructions. The language background factor was significant in two of the three constructions. Although the probability for the language background factor in the Infinitival Complement construction did not reach significance at the .05 level, it was close enough so that it is reasonable, with data of this sort, to argue that the null hypothesis has not been proven.
Accordingly, the Infinitival Complement construction was subjected to further analysis along with the Passive and Subject Relative constructions.

TABLE I

Analysis of Total Production Scores in Three Syntactic Constructions for Proficiency Level and Language Background Factors

Construction	F	df	Probability
Subject Relative			
language	3.882	4	.005
grade	9.514	2	.001
Infinitival Complement			
language	2.145	4	.074
grade	7.356	2	.001
Passive			
language	4.139	4	.003
grade	21.384	2	.001

Proficiency level is of only peripheral interest to the concern of this paper. Language background, however, is of major interest, and the facts above show clearly that language background is a significant factor in total production of a given syntactic construction.

Language groups can be compared by rank ordering them in terms of their total production of a syntactic construction. The rank order column of Table 2 shows the internal orderings of the language groups for each construction. Language groups groups are listed in descending order according to total production of the construction in question. Using the Subject Relative Clause as an example, total production by the Persian group exceeds that of the Arabic group, whose total production exceeds that of the Spanish group, etc.

I have argued alsewhere (Schachter 1974) that for a particular set of syntactic constructions of English, relative clauses, adult ESL learners from some language backgrounds will have difficulty acquiring them (or, more specifically, learning to produce them) and will as a result have a tendency to avoid producing them, using some syntactic or lexical paraphrase in order to express roughly equivalent meaning. This argument was made on the basis of the fact that significant differences do exist between language groups in total production and error production. Groups which avoid a particular construction produce fewer instances of the construction and make smaller percentages of errors in their

TABLE 2

ERROR PERCENTAGES: LEVEL I AND LEVEL III

CONSTRUCTION	LANGUAGES RANK ORDER	LEVEL I ERROR %s	LEVEL III ERROR %s
Subject Relative Clause	Persian	36	15
The officer who arrived first waited	Arabic	45	15
The officer who arrived second apologized	Spanish	36	5
	Japanese	25	17*
	Chinese	11	3
Infinitival Complement on Verb	Arabic	32	12
The general wanted to attack	Chinese	32	19
The general wanted the admiral to attack	Spanish	36	19
	Japanese	15	8
	Persian	19	10
Passive	Chinese	43	12
The city was destroyed	Japanese	21*	10
The city was destroyed by the admiral and the general	Persian	38	9
	Spanish	39	4*
	Arabic	26	7

use of it.

This is, I shall argue, precisely the situation with the facts described in this paper. For each construction then, the dotted line separates the language groups which exhibit avoidance behavior with respect to that construction. For Subject Relative Clauses, the Japanese and Chinese learners exhibit avoidance behavior (this is further verification of the claims made in the 1974 paper); for Infinitival Complements, the Japanese and Persian groups exhibit avoidance behavior; and for the Passive construction the Arabic group exhibits avoidance behavior. It should be stressed here that these claims are not based solely on differences in total production. Just the opposite is the case. My claim is that there is a constellation of interrelated facts that together indicate avoidance behavior. This will become clearer as the article progresses; at present the cautious reader can take it as an hypothesis only. The only proof so far proferred is the fact that the analysis of variance indicates a significant difference in total production.

There is one more avoidance claim to be made on the basis of this data. The sample sentences for infinitival complements (on page 16) exhibit two subtypes of such constructions. The first sample (a) is of the subtype in which the subject of the infinitival verb is the same as the subject of the main clause; whereas in the second sample sentence (b) the subject of the infinitival verb is different from the subject of the main clause. The type exhibited by sample (a) is by far the most commonly produced by all language groups. A comparison of the total production of type (a) with the total production of type (b) indicates another probable case of avoidance.

The Arabic and Chinese groups produce an average of three of type (a) to every one of type (b). The Spanish, Japanese and Persian groups however produce an average of six of type (a) to one of type (b). It should be noted that although the Spanish learners have infinitivals in their native language, they do not have type (b) infinitivals. Furthermore, since the Japanese and Persian groups avoid infinitivals in general and produce a ratio of 6:1, type (a) to type (b), one can see that their production of type (b) infinitivals is quite rare. A reasonable conclusion is that Spanish, Japanese, and Persian learners avoid type (b) Infinitival Complements whereas Arabic and Chinese learners do not.

Once total production of each structure has been analyzed and avoiding groups tentatively identified, it is possible to narrow the focus to total error production, and to compare error production of avoiding groups with error production of non-avoiding (or what I call 'productive') groups. The error results in this study were similar to the results in Schachter (1974) and, like those results, contrary to what had been expected. Before these studies were undertaken, it would have seemed reasonable to expect that the avoiding groups would produce a smaller number of errors than the productive groups since by avoiding the constructions in question they gave themselves fewer opportunities to make errors in their use of them. This they did. However, it was also to have been expected that the percentage of errors produced by avoiding groups would be higher than the percentage of errors produced by the others, since the construction in question was considered difficult by these learners. This last supposition was found to be totally wrong: the avoiding groups, in general, produced a smaller percentage of errors than did the productive groups. The columns labelled 'Level 1' and 'Level 3' display the percentages of attempts at production of each construction which resulted in malformations of the sentences of which they were a part.[4] The level 1 error percentages are generally quite high, indicating that these learners had far from perfect control of these structures. Yet with one exception (indicated by an asterisk), the error percentages of the productive groups are higher than those of the avoiding groups.[5] The Level 3 figures indicate a considerable drop in overall error production. Nevertheless, with two exceptions, the generalization that avoiding groups produce smaller percentages of errors still holds.

These Level 3 error percentages require further discussion. There is a possibility that at this level error differences between productive and avoiding groups should not be viewed as strong evidence for any claim. In the Passive construction, for instance, the Spanish and Arabic error percentages are very close--4% and 7% respectively. Total production by the Spanish group, however, is still considerably higher than total production by the Arabic group --94 and 68 respectively. It is quite likely that by Level 3 the Spanish learners can be said to have become fluent with the English Passive, using it often and correctly, whereas the Arabic learners are still using it sparingly. At this advanced level, then, low error percentages are to be interpreted very cautiously. They may be evidence of avoidance but they may also be evidence of successful learning. This possibility lends further weight to the earlier stated claim that a phenomenon cannot be proven by any one

isolated set of facts. One needs a constellation of interrelated facts in order to draw definitive conclusions about the learning process.

The final step in the exploration of the interrelationships between total production and error production is to consider error types in order to compare those made by the tentatively identified avoiding groups and those made by the tentatively identified productive groups. The question can be asked: is there a difference in the kinds of errors produced by one group as opposed to those produced by another group? Surprisingly, the short answer to that question is 'No', although the facts are more complex than this short answer would indicate.

Let me set a framework for the reader by providing what is hoped will be a useful analogy from a non-obviously related field of study--birdwatching. Birdwatchers use the terms accidentals, casuals, and residents to indicate how often a particular species occurs in a certain territory.[6] The terms are almost self-explanatory:

> Accidentals are very rare. On the state level, an accidental has appeared but once and might not be expected again.
>
> Casuals are occasional visitors and can be expected again.
>
> Residents are permanent residents; they can be observed in the territory year round.

Now, if we were to consider the language group (i.e., Spanish, Persian, etc.) to be the territory or state, and each error type to be a particular species, we would be able to make such claims as the following: for language group A, error type X is an accidental; for language group B, however, error type X is a resident. In this new context, then, we may redefine our terms as follows. Accidentals are defined as having occurred once within a language group, regardless of proficiency level. Casuals are defined as having occurred two to ten times. Residents are defined as having occurred more than ten times.[7]

The generalization that holds best for the data described herein is that nearly all of the error types are spread throughout all five language groups.[8] But for some language groups an error type is a resident, and for other language groups the same error type is an accidental or a casual. What is intriguing is that among avoiding groups in a particular construction there are no resident error types; there

are only casuals and accidentals. Among the productive groups, however, although casuals and accidentals appear, resident error types are characteristic.

Some examples should help to illustrate this claim. In the use of the Passive construction a fairly common error is to passivize on an intransitive verb, as the examples below show. This error type is an accidental in the Arabic group (no asterisk), and a casual in the Spanish, Persian and Japanese groups (one asterisk); but it is a resident in the Chinese group (two asterisks).

Passive

**C I was left Hong Kong about two years ago. (Level 1/C16)

*J ..the famous area that was occured the air pollutions ..is Minimate. (Level 1/J2)

*P In twelve years ago were happened a revolution. (Level 1/P13)

*S Mexico was fallen at fourteenth place. (Level 1/S22)

A It was happened in the time which consider very dangerous for the history of the Arabs. (Level 2/A4)

In the formation of the Infinitival Complement, treating a modal verb as a main verb and adding an infinitive to it was an accidental for the Persian, Japanese, and Chinese groups, a casual for the Arabic group, and a resident for the Spanish group. It should be noted that, as the examples below show, my claim--that among avoiding groups there are no resident errors--is a limited one. It does appear that if a resident error occurs, it will occur in a productive group, but not all productive groups make resident errors.

Infinitival Complement on Verb

*A I feel that it must to be the first at everythings. (Level 1/A1)

C So we always can to hear many story from her. (Level 1/C22)

**S In this way they can to have good relation with people in the other countries. (Level 1/S16)

J At that time they could not even to take enough food. (Level 2/J1)

P The most of people would rather to go to religion place. (Level 1/P21)

Another characteristic of productive groups is that they often produce two or more resident error types within one construction. Subject Relative Clauses illustrate this quite nicely. It was possible to find an instance of an epenthetic subject pronoun (shown below) in every language group. For the avoiding Chinese and Japanese groups this error was an accidental, for the Spanish group it was a casual, but for the Persian and Arabic groups it was a permanent resident.

Subject Relative Clause

**P The film was about a boy that he wanted to be free... (Level 1/P7)

**A We avoided any trouble that it could have happened. (Level 1/A9)

*S By example, I am a friend of some ladies that they are very kinds. (Level 1/S6)

J If I said some good words which..those were bad meaning in other countries... (Level 1/J15)

C Now you can take off anything that it is troubling you... (Level 1/C13)

The Persian and Arabic groups also produced, as a resident, the error type exhibited below, in which the relative clause marker is missing. This error type was a casual or an accidental (or did not occur) among the other groups.

Subject Relative Clause

**P In the south of Iran there is a gulf is named Persian Gulf. (Level 1/P21)

**A I took everything reached my hand. (Level 1/A16)

S Our education have three point: first is the school primary which have 6 years, the following is the high school it have 5 year, and then the university which may be 5 or 7 year about. (Level 1/S11)

*J ..and I played card or watched someone was playing the game until 5 o'clock. (Level 1/J13)

In sum, although there appear to be a few differences in the error types produced by avoiding groups as opposed to productive groups, there definitely is a difference in their nesting habits. For avoiding groups there are no resident error types; for productive groups resident error types are characteristic.

It might be useful at this point to describe the picture of language learners that has emerged. Looking at learners from the point of view of a particular syntactic construction, we see that they can be divided into two groups:

Group I. The 'producers' share the following characteristics:

1. They produce the construction freely.
2. They produce many errors in their use of the construction.
3. They produce resident errors.

Group II. The 'avoiders' share a different set of characteristics:

1. They produce the construction infrequently.
2. They produce few errors in their use of the construction.
3. They do not produce resident errors.

We note furthermore that a given language group can function as producers of one syntactic construction and as avoiders of another.

These generalizations derive from facts about the interrelationships between certain phenomena--the interrelationships between total production and total error production, between total production and error types, and between total error types. These interrelationships provide us with a picture of two contrasting learning patterns, a very different picture from that which might have been drawn if error production alone had been considered.

FOOTNOTES

1. This project was sponsored by the AID/NAFSA Liaison Committee and supported in part by the Center for the Humanities, USC.

2. The writing samples were compositions administered under test conditions. Each learner was given precisely 45 minutes to complete the task.

3. Proficiency level was determined on the basis of a 6 hour USC placement test administered to all incoming foreign students. There are three proficiency levels: Level 1 is equivalent to a TOEFL range of 400-450; Level 2 is equivalent to a TOEFL range of 450-500; Level 3 is equivalent to a TOEFL range of 500-550.

4. Distribution errors were counted as well as formation errors. For example, although the relative clause in the following sentence is itself perfectly well-formed, 'those are brown which were made by me', the placement of the clause in this position results in an ungrammatical English sentence.

5. These error percentages show that the productive groups cannot be further differentiated on this basis. There is no-one-to-one correlation between high production and high error production.

6. These definitions are drawn from Roger Tory Peterson (1961, pp. xvii, xviii).

7. These numbers are admittedly arbitrary. There are important differences in the distribution of error types across language groups though, and this is one way to describe them.

8. There are a few exceptions to this generalization in that some error types appear to be language-unique. This may be due to accidental gaps in the data.

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